

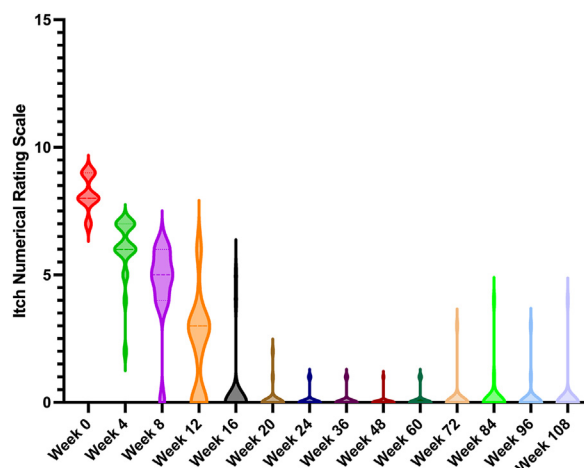
## Maintenance of response to dupilumab in prurigo nodularis: A retrospective cohort study



*To the Editor:* Prurigo nodularis (PN) is a recalcitrant dermatosis characterized by intense pruritus, significantly impacting quality of life, and is associated with atopy.<sup>1</sup> Transcriptomic analysis implicates itch-associated cytokines interleukin 31, interleukin 13, and interleukin 4, as well as alterations to epidermal keratinization and the cornified envelope as associated with the disease.<sup>2,3</sup> Phase 3 clinical trials have identified dupilumab as an effective therapy for PN with significant reduction in itch and disease activity, and improvement in quality of life compared with placebo.<sup>3</sup> Existing clinical trials have only assessed response until 24 weeks, with long-term impact of therapy (including rates of secondary treatment failure) remaining unclear.<sup>3,4,5</sup>

We conducted a retrospective cohort study of 21 patients with PN treated with dupilumab at our institution between June 2020 and November 2022. Patients were included if they had received dupilumab therapy for PN during this time period for a minimum of 52 weeks. Dupilumab was administered at 300 mg/1.5 mg subcutaneously, with 600 mg administered at week 0, and 300 mg every 2 weeks thereafter. Patients were included only if they undertook dupilumab monotherapy for PN without adjuvant topical steroids, intralesional corticosteroids, oral corticosteroids, or oral immunosuppressive agents (such as methotrexate or azathioprine). Captured data included demographic and disease-specific information, including nodule counts and patient-reported itch. Patients were clinically reviewed at 4-week intervals until week 24 and then at 12-week intervals until week 108. This study was approved by the Human Research Ethics Committee of South-West Sydney Area Health Service. Consent for the publication of all patient photographs and medical information was provided by the authors at the time of submission to the journal. All patients have consented for their photographs and medical information to be published in print and online.

Of 21 patients included in this study, no patients were identified that experienced primary failure to dupilumab therapy for PN or secondary failure before 52 weeks of therapy. The mean age of patients was 55 years, and 11 (52.4%) were men

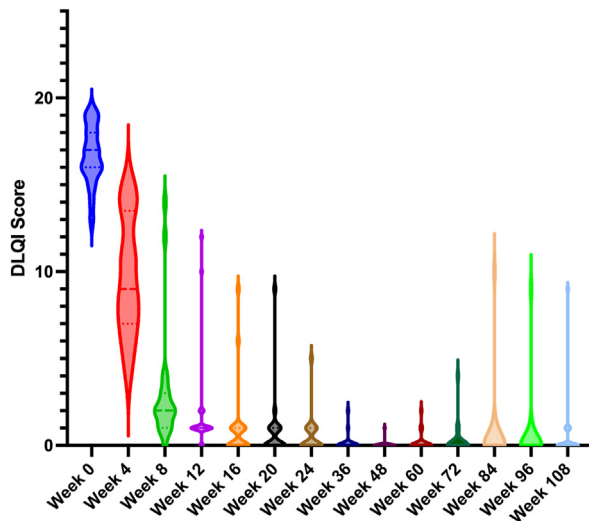


**Fig 1.** Violin plots demonstrating changes in patient itch numerical rating scales over 104 weeks of therapy. Significant reduction in itch was seen as early as week 4 of therapy ( $P < .0001$ ). Response was maintained in >90% of patients till 104 weeks, with 1 patient experiencing secondary treatment failure at week 72.

and 10 (47.6%) were women. Of the 21 patients included, 16 (76.2%) had a history of atopy and 9 (42.8%) had active atopic dermatitis. The median baseline Eczema Area and Severity Index score for the 9 patients with atopic dermatitis was 5.6. The median length of treatment with dupilumab was 112 weeks (range, 76-128 weeks). Median baseline nodule count was 18 (range, 9-28) with a median baseline Dermatology Life Quality Index score of 17/20. Median baseline itch was 8/10 as measured by the patient numerical rating scale. Median IgE level was 65 kIU/L at baseline. Twenty (95.2%) of 21 patients completed a minimum of 104 weeks of dupilumab therapy.

At week 16, 19 (90.5%) of 21 patients achieved an itch numerical rating scale score of 0 (Fig 1) and a Dermatology Life Quality Index score of 0 or 1 (Fig 2). This response was maintained till 104 weeks of therapy.

One patient experienced secondary failure to dupilumab therapy with recurrence of disease at week 72, with increasing itch, a number of nodules, and worsening Dermatology Life Quality Index score. Administration of dupilumab was ceased at week 76, and the patient was treated with oral upadacitinib 15 mg daily with good effect. No patients in this study reported infectious adverse events, such as herpes simplex infection, bacterial skin infection, or shingles. No reports of dupilumab-associated ocular inflammation were identified.



**Fig 2.** Violin plots demonstrating changes in patient Dermatology Life Quality Index (DLQI) score over 104 weeks of therapy. Significant improvement in DLQI was seen as early as week 4 of therapy ( $P < .0001$ ). Response was maintained in  $>90\%$  of patients till 104 weeks.

Limitations of this study include the small number of patients and limited follow-up beyond 104 weeks. Data from open-label extension studies will provide further information regarding the long-term efficacy of dupilumab for treating PN.

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#### Conflicts of interest

Dr. Frew has conducted advisory work for Janssen, Boehringer-Ingelheim, Pfizer, Kyowa Kirin, LEO Pharma, Regeneron, Chemocentryx, AbbVie, Azora, Novartis, and UCB; participated in trials for Pfizer, UCB, Boehringer-Ingelheim, Eli Lilly, CSL, Azora; and received research support from Ortho Dermatologics, Sun Pharma, LEO Pharma, UCB, and La Roche-Posay. Drs Selvaraj and Stewart have no conflicts of interest to declare.

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